Accelerating Digital Connectivity in North and Central Asia

Expert Group Meeting on the Implementation of the Vienna Programme of Action in North and Central Asia

15:35 to 15:50 BKK time, **7-8 June 2023**

Hybrid (online), Almaty, Kazakhstan

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ICT for Development Section
ICT for Disaster Risk Reduction Division
Economic and Social Commission of ESCAP

ESCAP 75
MOVING FORWARD TOGETHER

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The new resolution

“ESCAP/RES/79/10 Promoting digital cooperation and inclusion through the Action Plan for Implementing the Asia-Pacific Information Superhighway Initiative, 2022–2026”

sets forth a series of actions and commitments aimed at advancing digital connectivity and transformation within our region and beyond.

The two key points of the resolution are that member States are encouraged to implement the APIS Action Plan 2022-2026,
and that the Government of Kazakhstan has committed
to host the next Asia Pacific Digital Ministerial Conference in 2024.

Asia Pacific Information Superhighway (APIS)

Action Plan 2022-2026

ESCAP
Economic and Social Commission for Asia and the Pacific

Chair

Maldives

Vice Chairs

Mongolia

Samoa

Working Group 1
Connectivity for All

Co-Chairs

Armenia

United States of America

Vice Chairs

Kazakhstan

Sri Lanka

Uzbekistan

Working Group 2
Digital Technologies and Applications

Co-Chairs

Azerbaijan

India

Vice Chairs

Armenia

China

Russian Federation

Working Group 3
Digital Data

Co-Chairs

Kazakhstan

Republic of Korea

Vice Chairs

Armenia

Philippines

Sri Lanka

Invite partners to join this network on ICT

Working Group 1 of the Asia-Pacific Information Superhighway (APIS) on Connectivity for All

The Working Group 1 (WG1) on Connectivity for All is aimed to facilitate implementation of the APIS Action Plan in 2022-2026 by connecting people, organisations, and things anywhere and all the time.

Bureau of the Working Group 1

Co-Chairs: Armenia, United States of America

Vice-Chairs: Kazakhstan, Sri Lanka, Uzbekistan

Focus of Working Group 1 in 2022-2024:

- ✓ Bridging the digital divide
- ✓ ICT infrastructure and co-deployment of ICT with other sector infrastructures
- ✓ Universal, reliable, and affordable access to broadband internet
- ✓ E-resilience of ICT infrastructure

Contact us at:
ICT and Development Section
ICT and Disaster Risk Reduction Division
United Nations Economic and Social Commission for Asia and the Pacific (ESCAP)
Email: escap-ids@un.org

Working Group 2 Asia-Pacific Information Superhighway (APIS) on Digital Technologies and Applications

The Working Group 2 on digital technologies and applications is aimed to facilitate implementation of the APIS Action Plan in 2022-2026 by bridging the digital divide and accelerating digital transformation through multi stakeholder cooperation

Bureau of the Working Group 2

Co-Chairs: Azerbaijan, India

Vice-Chairs: Armenia, China, Russian Federation

SCOPE OF WORK

I.New and Emerging Tech
- i.Digital and Frontier Technologies
- ii.Strategies of Digital Transformation

II.Digital Policies
- i.Policies for ICT Infrastructure Resilience
- ii.SMEs Digitalization
- iii.Enabling Public-Private Partnerships

III.Digital Applications
- i.Digital Transformation Assessment Framework
- ii.Digital Skills and Digital Financial Services
- iii.ICT for disaster risk management
- iv.Sectoral Digitalization

What we do:
- Exchange information at monthly online meetings
- Prepare publications and guidelines (reports, working papers etc.)
- Hold capacity-building activities (webinars and trainings)

Contact us at:
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United Nations Economic and Social Commission for Asia and the Pacific (ESCAP)
Email: escap-ids@un.org

ICT&DRR Gateway | AP-IS Website

Working Group 3 of the Asia-Pacific Information Superhighway (APIS) on Digital Data

Working Group 3 on "Digital Data" in the AP-IS Action Plan (2022-2026) focuses on strengthening digital data creation, transition to open format, storing, maintaining, use, and integration with other data sources such as satellite-geospatial data, real-time Internet of things and statistical data.

Bureau of the Working Group 3

Co-Chairs: Kazakhstan, Republic of Korea

Vice-Chairs: Armenia, Philippines, Sri Lanka

Focus of the Working Group 3 in 2022-2026:

- ✓ Digital data creation, collection, integration, management and
- ✓ Evidence-based policy making with use of different data sets, including big data
- ✓ More targeted policy interventions for affordable and universal Internet connectivity
- ✓ Coordination within and between national and international frameworks for data sharing and use across sectors and countries

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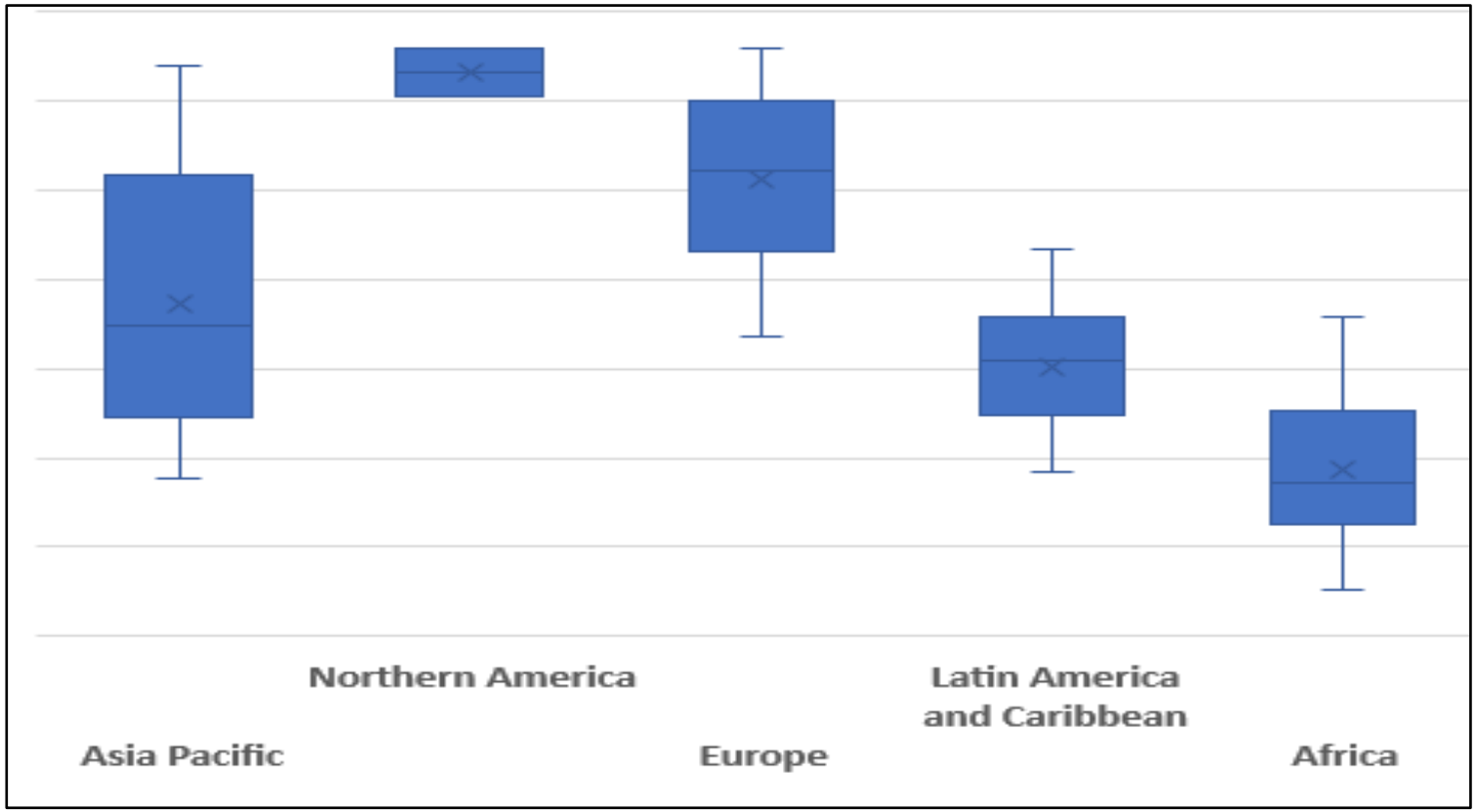
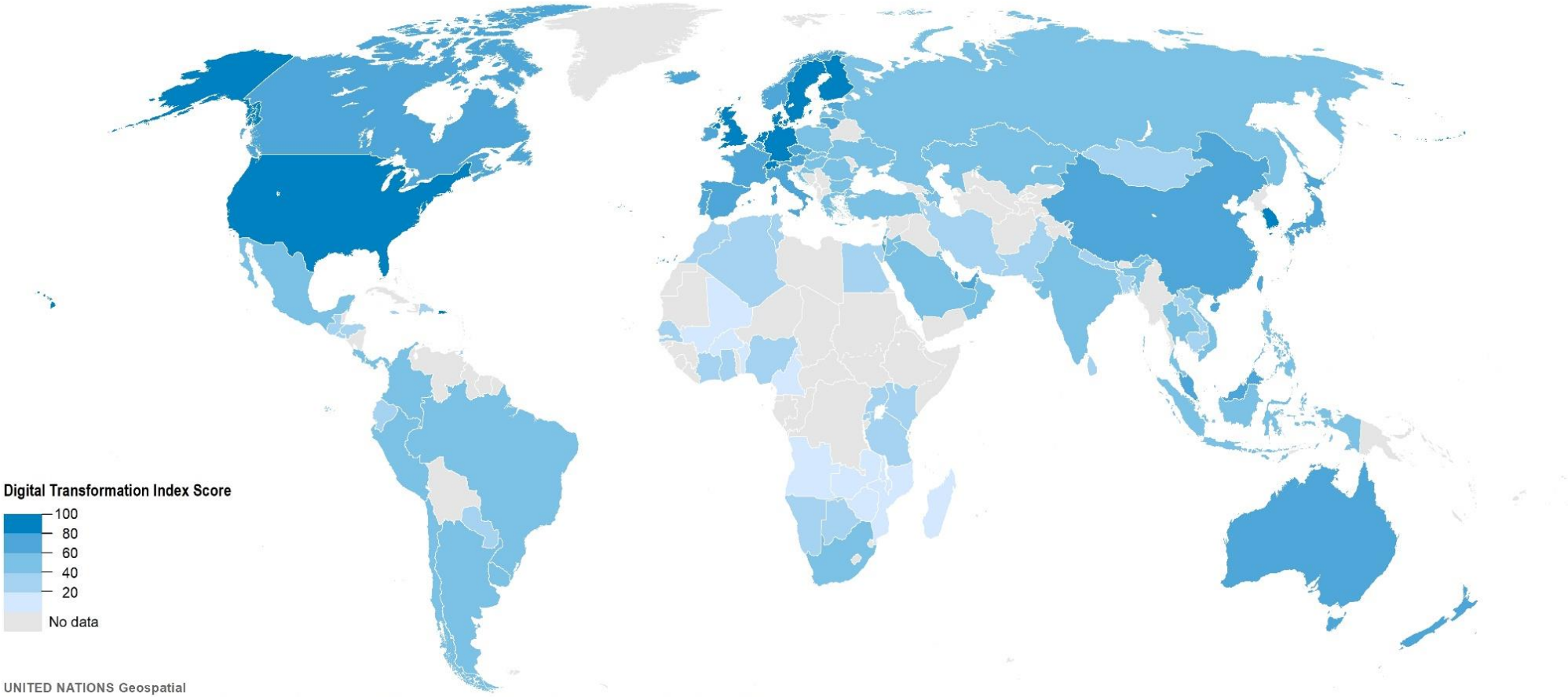
Asia-Pacific is the most digitally divided region



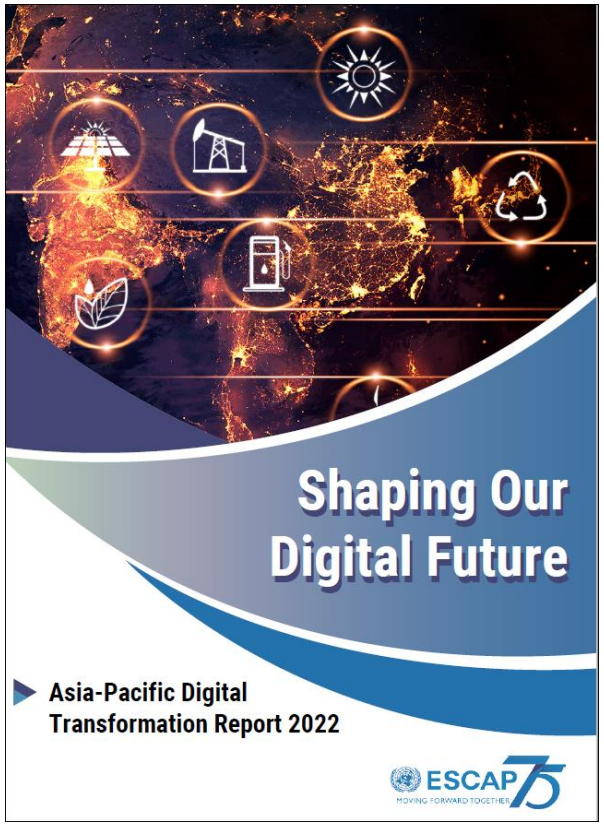
Source: Produced by ESCAP based on data from various sources from UN agencies and global/regional organizations sources.

Global Digital Transformation Landscape



UNITED NATIONS Geospatial
The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.
Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties.
Final boundary between the Republic of Sudan and the Republic of South Sudan has not yet been determined.
A dispute exists between the Governments of Argentina and the United Kingdom of Great Britain and Northern Ireland concerning sovereignty over the Falkland Islands (Malvinas).

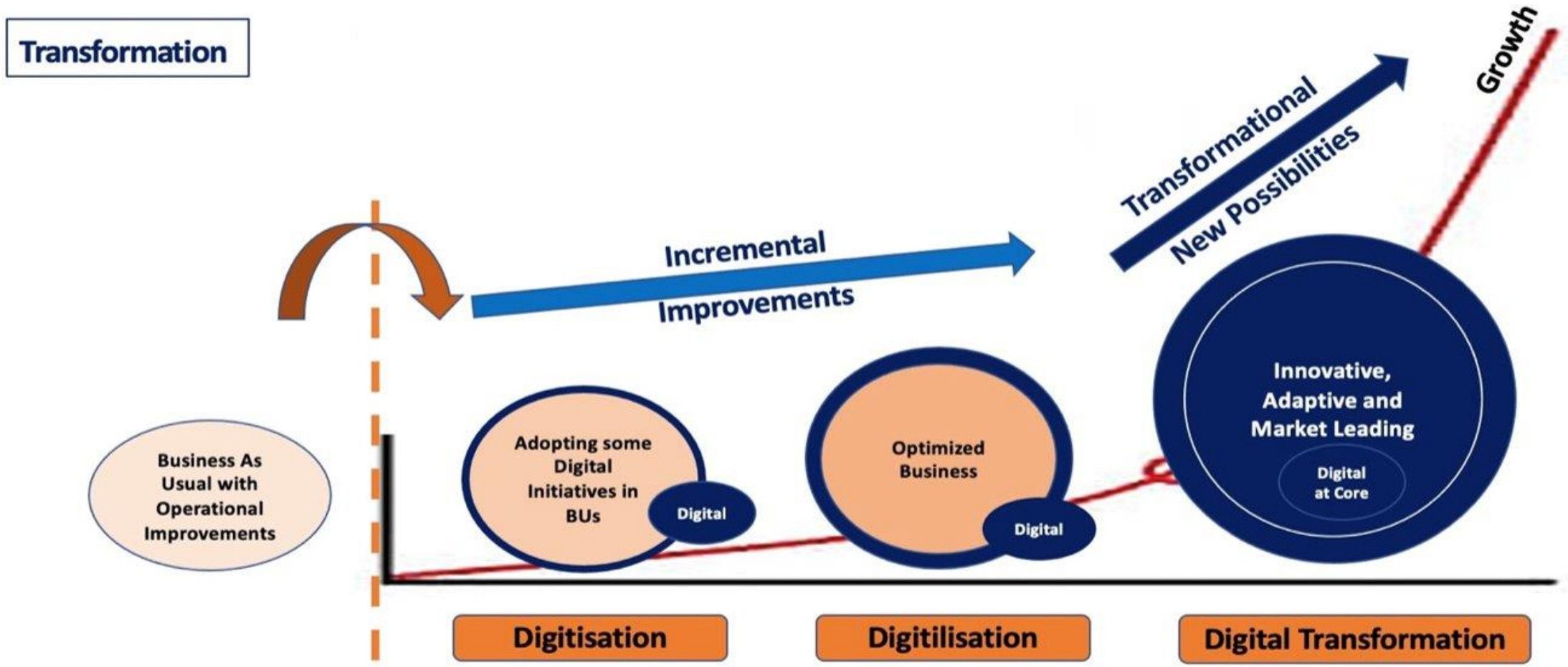
Jul 2022



Digital transformation aims at (1) **strengthening national competitiveness, (2) boosting the productivity of business and manufacturing, and (3) providing people with new values and services**.

AP-IS action plan 2022-2026 provides an overarching framework and regional platform for the implementation of actions along **3 digital transformation pathways**

Digitalization and Digital Transformation



The conversion of analog information converted, stored, processed, managed, and transmitted in a digital format.

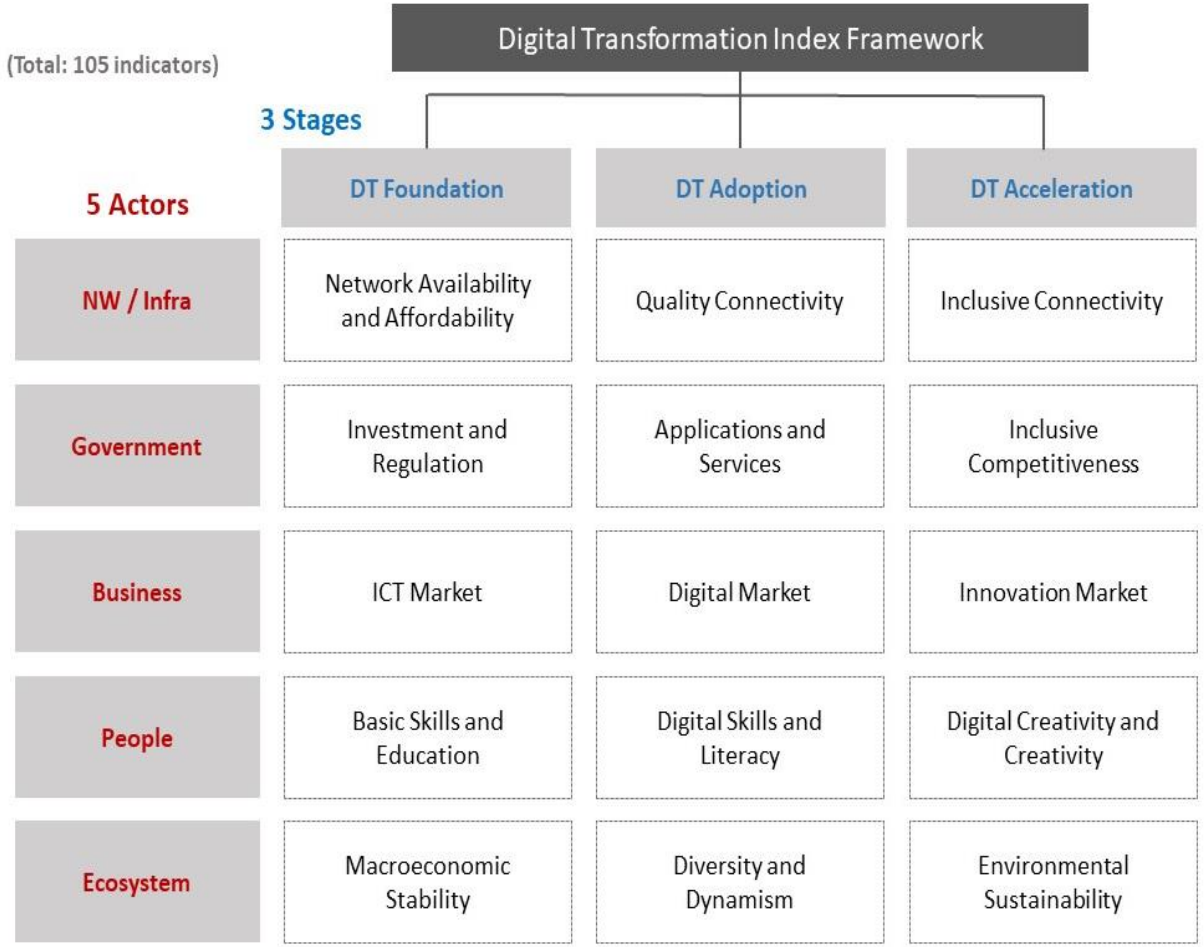
The process of leveraging digital technology and data to improve business processes, model and values.

The new development paradigm change and its process of the whole society fabric of value creation, management, use and distribution by using disruptive technologies including AI, digital data, connectivity and network

(Luo and Wee, 2021)

DTI FRAMEWORK

- 3 development stages x 5 pillars = **15 domains**
- **105** DTI **indicators**



8 indicators x 3 stages = 24 indicators

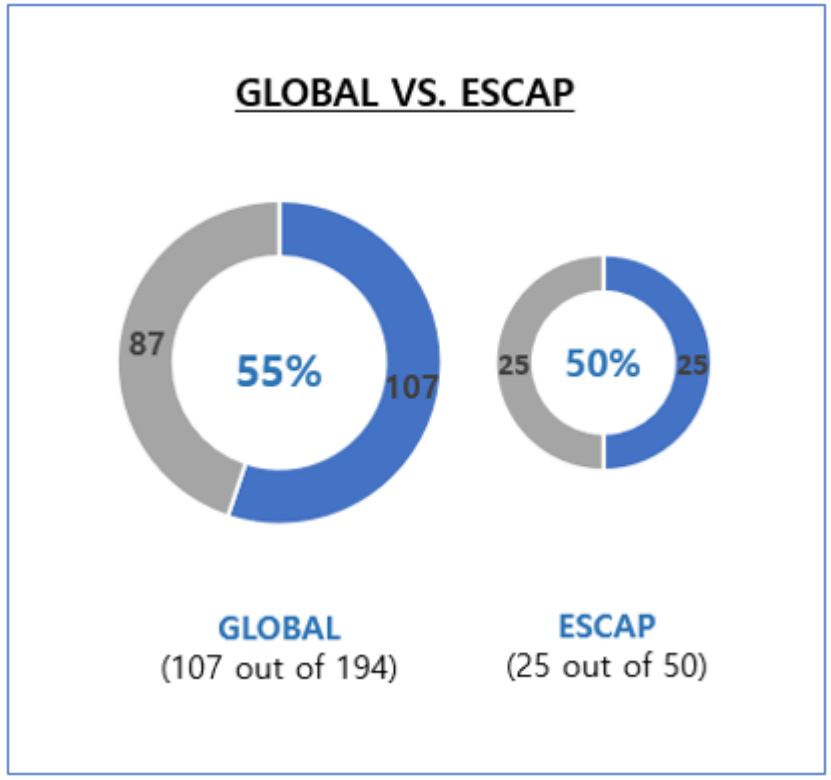
8 indicators x 3 stages = 24 indicators

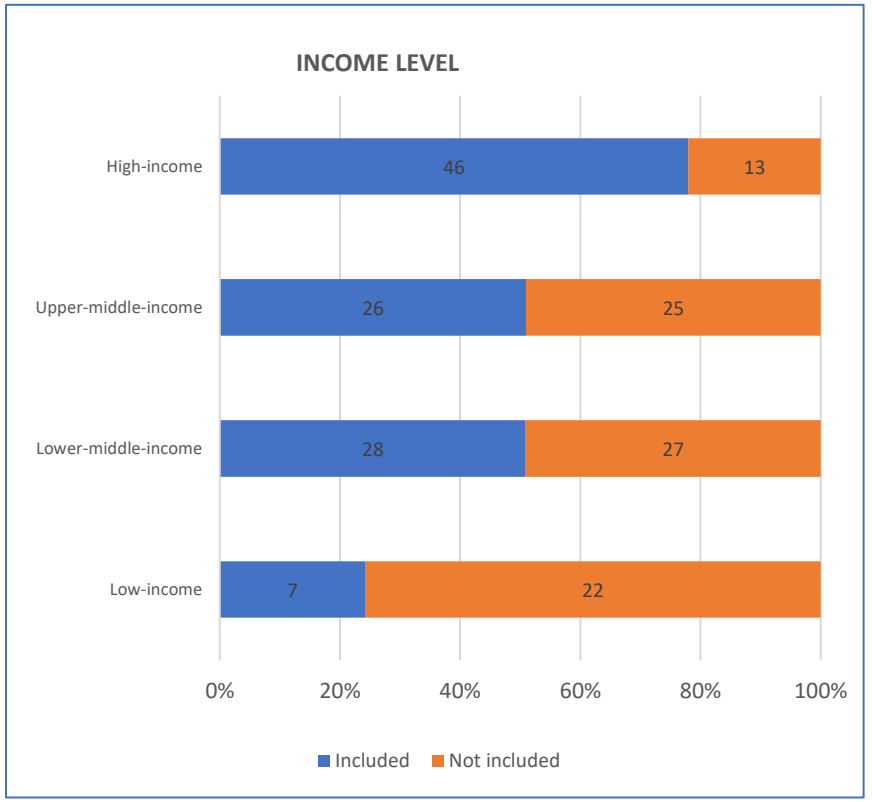
7 indicators x 3 stages = 21 indicators

6 indicators x 3 stages = 18 indicators

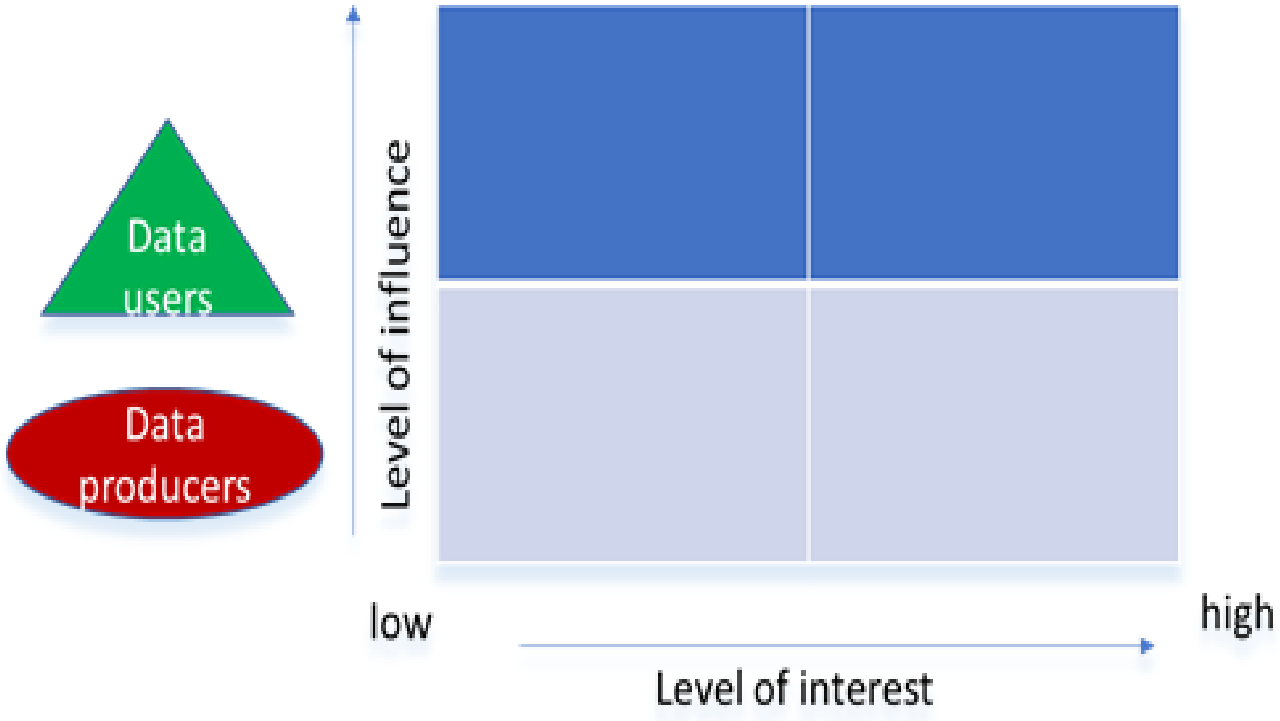
6 indicators x 3 stages = 18 indicators

Data Availability and Credibility Matters





Set the Accounting Framework Data Set



Steps to follow the Group Work:

1.Identify the DATA USERS & DATA PRODUCERS: participants should choose a card that designates, based on colour, either a data user or producer & write down the name of one relevant institution or stakeholder group per card

2.Place the data users and producers on a respective space in a two-dimensional graph that answers two questions: (i) How interested in data accounts is the stakeholder? (ii) How much influence do they currently have on data accounts?

3. Define some engagement approaches to increase the demand for data and the contributions of data producers –
(a) shift high-influence/low-interest stakeholders to high-influence, high-interest stakeholders;
(b) to enable low influence/high-interest stakeholders, to become more influential.

Engagement approaches: awareness raising, training, dialogue, negotiation, lobbying, regulation, incentives, motivation, inspiration, development of state programmes, partnership offers, state budget allocations, media and outreach, research and analysis, investment programmes, identifying mutual benefits

[Sustainability Outlook Tool: Ten Steps Towards Integration Using the Systems Thinking Approach | SDG Help Desk (unescap.org)]

E-resilience Readiness Framework of ESCAP

ICT indicators under four thematic cross-cutting areas to model the e-resilience framework in the background of Hazard and Exposure index

- **ICT infrastructure as a physical foundation for the above**
- **ICT policy in different sectors**
- **ICT's role in setting up new systems and applications**
- **ICTs' role in data management**

E-resilience framework from a pandemic management perspective

Source: https://www.unescap.org/projects/e-resilience

E-Resilience Monitoring Dashboard

ESCAP
Economic and Social Commission for Asia and the Pacific

Country Group	Country	Pillar	Indicator	Year
NCA	All	All	All	2022

illar	Name	Armenia	Azerbaijan	Georgia	Kaz
CT infrastructure as a hysical foundation	Internet access in schools (0-100 % max)	100.00	60.37	100.00	
	Mobile cellular subscriptions per 100 inhabitants (0-100 max)	128.96	100.00	100.00	
	Mobile tariffs (%monthly GDP per capita) (0-100 % max)	59.13	63.66	68.64	
	Percentage of Households with a computer (0-100 % max)	63.80	75.80	61.80	
	Percentage of households with Internet access at home (0-100 % max)	96.00	84.80	83.80	
	Percentage of Individuals using the Internet (0-100 % max)	78.61	84.60	72.50	
CT policy in different ectors	Adult Literacy (normalised, 0-100 max)	99.76	99.76	99.21	
	Cybersecurity (0-100 max)	50.47	89.31	81.06	
	Ease of doing business (0-100 max)	74.49	78.51	83.73	
	E-commerce legislation (normalised, 0 -100 max)	75.00	75.00	50.00	
	Government Effectiveness -2.5 - 2.5(max)	-0.25	-0.17	0.79	
	ICT Regulatory Environment (0-100 max)	87.65	61.18	92.35	
	Legal framework's adaptability to emerging technologies (normalised, 0 -100 max)	43.81	64.46		
	mean year of schooling	12.52	10.48	12.81	
	Public trust in politicians 1–7 (max)	3.23	4.65	2.91	
	R&D expenditure by governments and higher education (%of GDP) (0-100 max)	15.61	14.77	26.60	
	Regulatory quality (normalised, 0 - 100 max)	57.21	34.95	71.69	
	Secure Internet servers (normalised, 0-100 max)	50.87	45.47	65.13	
CT's role in setting up new ystems and applications	Adoption of emerging technologies (normalised, 0-100 max)	47.72	62.72		
	Firms with website, % of total (0-100 % max)	76.49	27.19	48.25	
	Government promotion of investment in emerging	56.93	69.29		

Hazard & Exposure

UNITED NATIONS ESCAP
Economic and Social Commission for Asia an

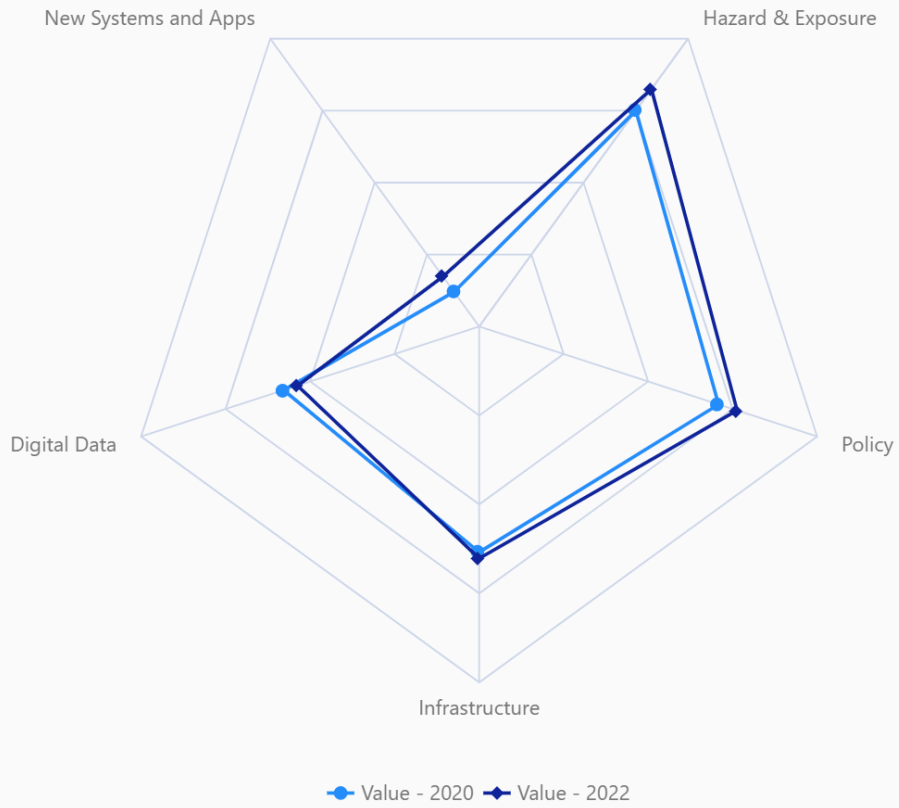
E-Resilience Monitoring Dashboard

Country
- Kazakhstan
- (•) Kyrgyzstan
- Mongolia
- Tajikistan

Pillars	2020	2022
Digital Data	43.14	41.49
Hazard & Exposure	50.00	53.00
Infrastructure	45.38	46.07
New Systems and Apps	24.82	26.94
Policy	48.33	50.52

The data scores per pilar on e-resilience of 2020 and 2022 for Kyrgyzstan has shown very good performance against Hazard & Exposure, showcasing the strong political will and broad consensus for steps towards a more resilient society. There is also an indication of progress in terms of Policy pillar of e-resilience. Kyrgyzstan may benefit from expanding cooperation in adoption of new and emerging technologies, taking measures for lowering the costs for internet access, as well as in developing robust system national cybersecurity policies following the international and regional best practice.

Country Profile



E-resilience Monitoring Toolkit: Methodological Notes and Pilot Countries' E-resilience Profiles. Asia-Pacific Information Superhighway Working Paper Series. United Nations ESCAP, ICT and Disaster Risk Reduction Division, November 2021. Bangkok.

Indicator Name	Country
HAZARD & EXPOSURE (0-10max /highest risk)	Kazakhstan

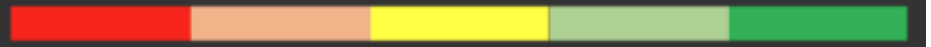
Year of data access	Score
2022	2.40

Initial Source of data

Joint Research Centre (JRC), the European Commission's scienceand knowledge service.

Description

The hazard & exposure dimension reflects the probability of physical exposure associated with specific hazards. There is no risk if there is no physical exposure, no matter how severe the hazard event is. Therefore, the hazard and exposure dimensions are merged into hazard & exposure dimension. As such it represents the load that the community has to deal with when exposed to a hazard event. The dimension comprises two categories: natural hazards and human-induced hazards, aggregated with the geometric mean, where both indexes carry equal weight within the dimension. The INFORM Risk model describes three dimensions of risk: hazards & exposure, vulnerability and lack of coping capacity dimensions.



Color Code Interpretation:

0% – 30.9% - Red: the least network-ready economy in the pillar or component concerned. Requires more investments or support from other member states to achieve e-resilience.

31% – 44.9% - Orange: the economy does not perform well enough in the pillar or component concerned. In transition and requires more resources and capacity building and investments to achieve better e-resilience.

45%- 59.9% - Yellow: the economy is a good performer when it comes to the pillar or component concerned, nevertheless there is room for improvement which requires some more resources and capacity building to become more e-resilient.

60% – 74.9% - Light green: the economy is a strong performer as a result of solid showings in the pillar or component concerned. Ready for sharing experiences, services and tools (ex. e-platforms and e-market spaces) at interstate level, and there is some room for improvement to become more e-resilient.

75% – 100% - Dark green: the economies, which are the global leaders and most network-ready societies performing at the highest level in the index pillar or component concerned. Which in turn demonstrates high e-resilience and readiness for interstate share of experience and services.

UNITED NATIONS ESCAP
Economic and Social Commission for Asia and the Pacific

E-Resilience Monitoring Dashboard

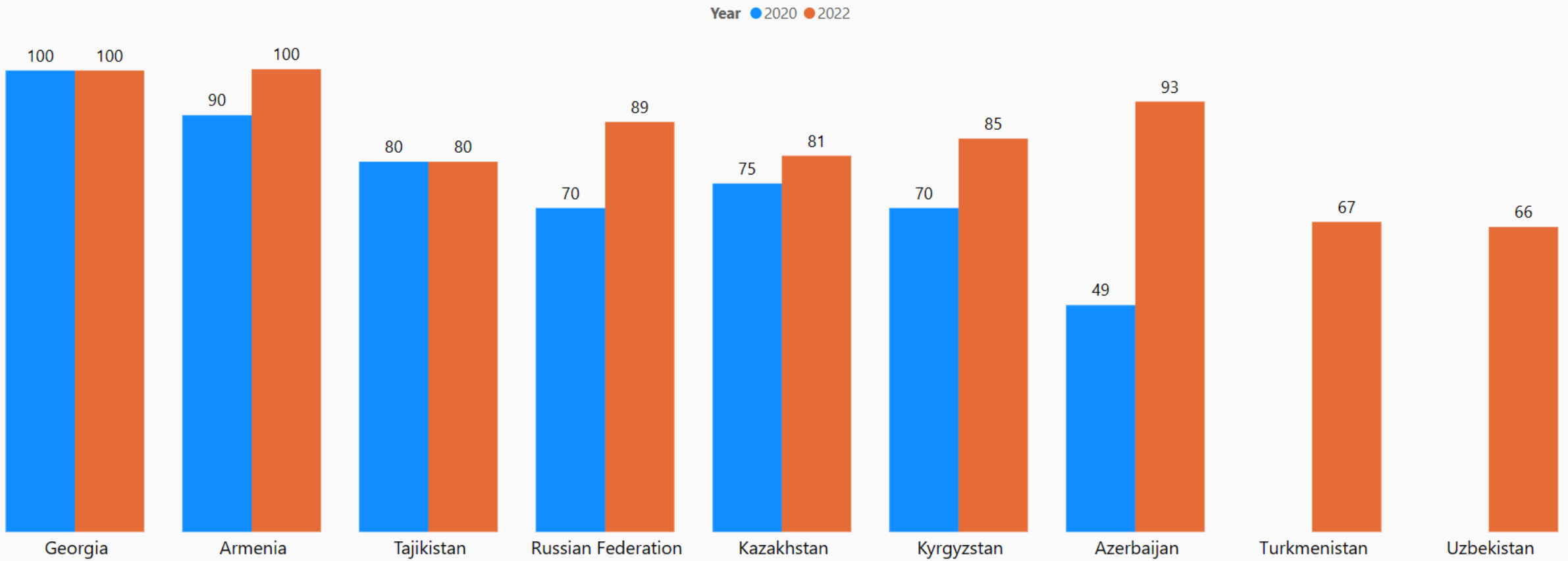
Reference

Country Group: NCA

Country: All

Pillar: ICT infrastructure as a physical ...

Indicator: 4G mobile network coverage (0-100 % max)



Note: The source of data and units are in the tooltip on Page 1

UNITED NATIONS ESCAP
Economic and Social Commission for Asia and the Pacific

E-Resilience Monitoring Dashboard

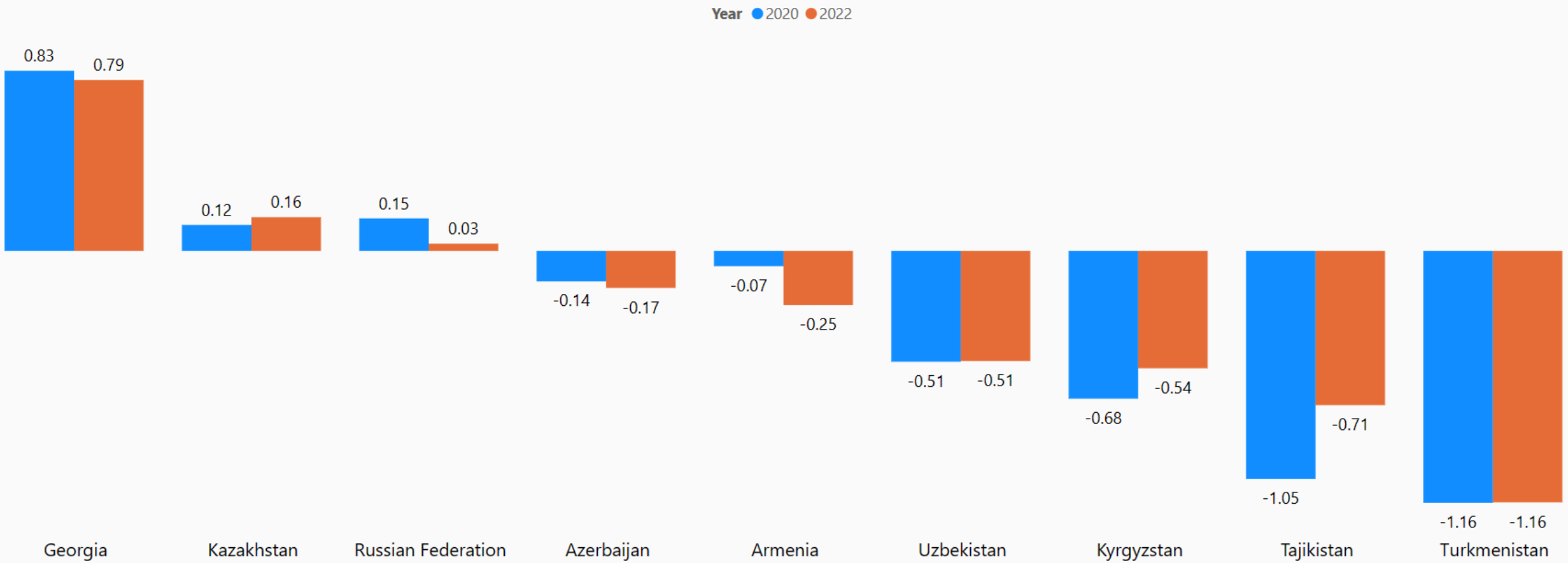
Reference

Country Group: NCA

Country: All

Pillar: ICT policy in different sectors

Indicator: Government Effectiveness -2.5 - 2.5(max)



Note: The source of data and units are in the tooltip on Page 1

UNITED NATIONS ESCAP
Economic and Social Commission for Asia and the Pacific

E-Resilience Monitoring Dashboard

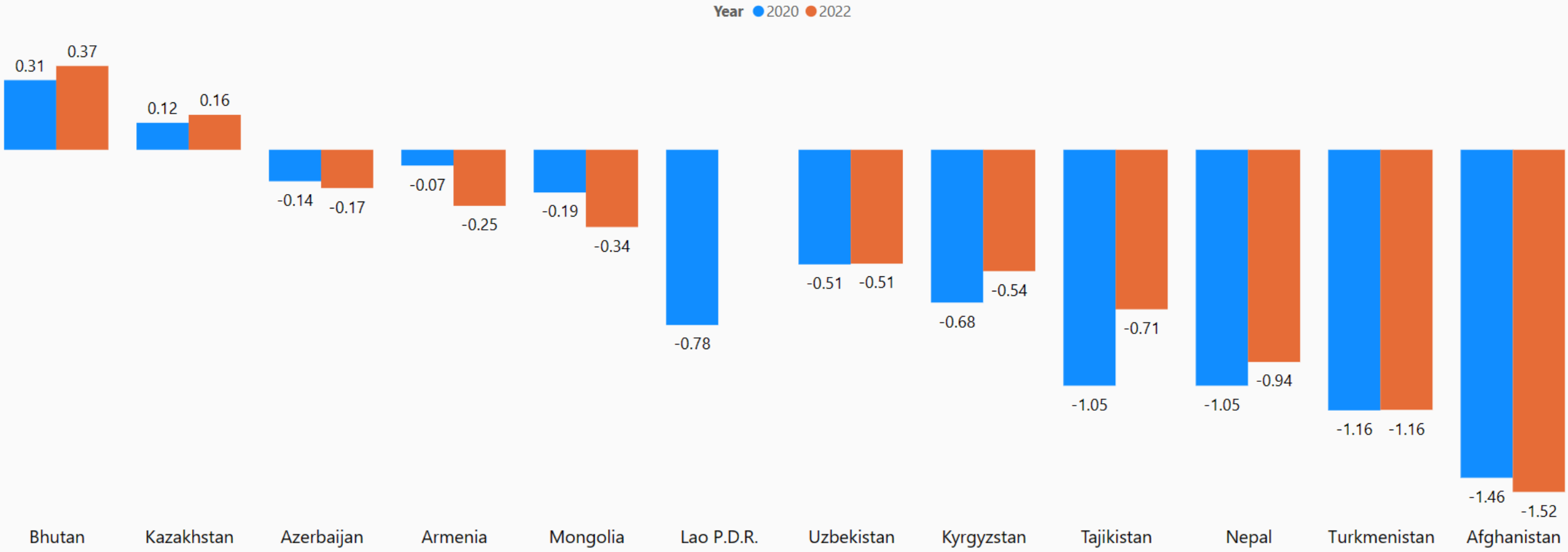
Reference

Country Group: LLDC

Country: All

Pillar: ICT policy in different sectors

Indicator: Government Effectiveness -2.5 - 2.5(max)



Note: The source of data and units are in the tooltip on Page 1

UNITED NATIONS ESCAP
Economic and Social Commission for Asia and the Pacific

E-Resilience Monitoring Dashboard

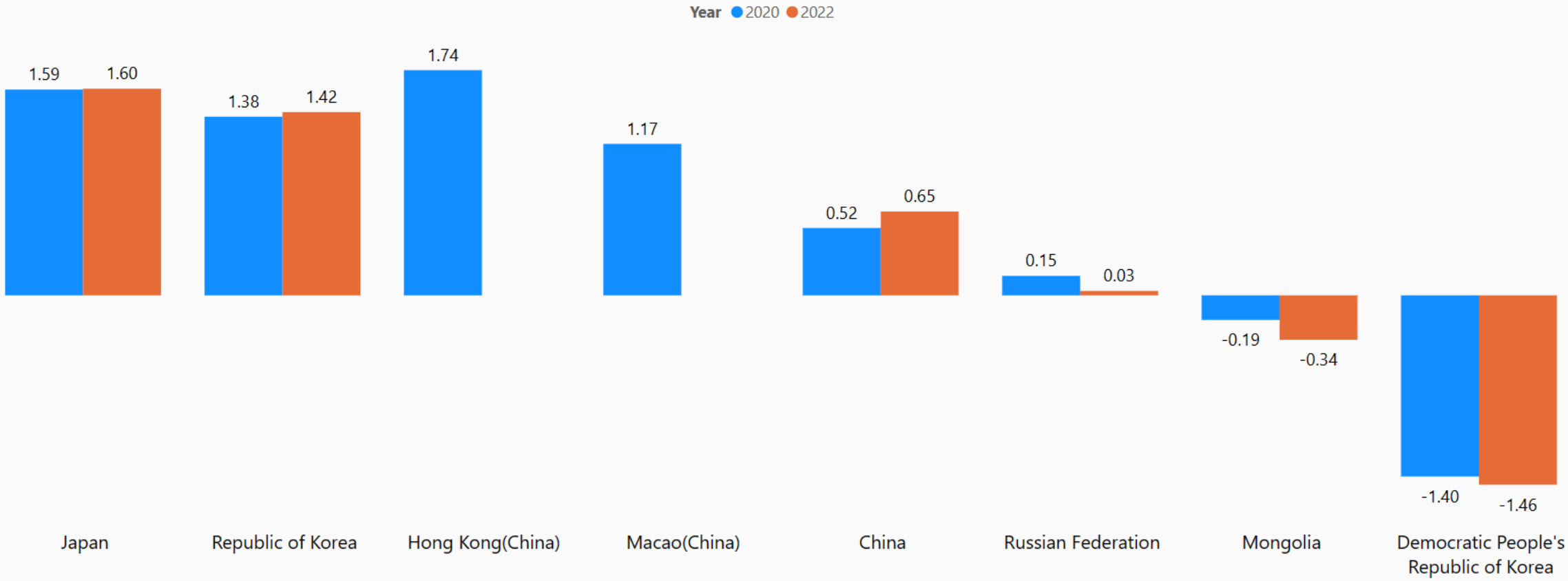
Reference

Country Group: ENEA

Country: All

Pillar: ICT policy in different sectors

Indicator: Government Effectiveness -2.5 - 2.5(max)



Note: The source of data and units are in the tooltip on Page 1

UNITED NATIONS ESCAP
Economic and Social Commission for Asia and the Pacific

E-Resilience Monitoring Dashboard

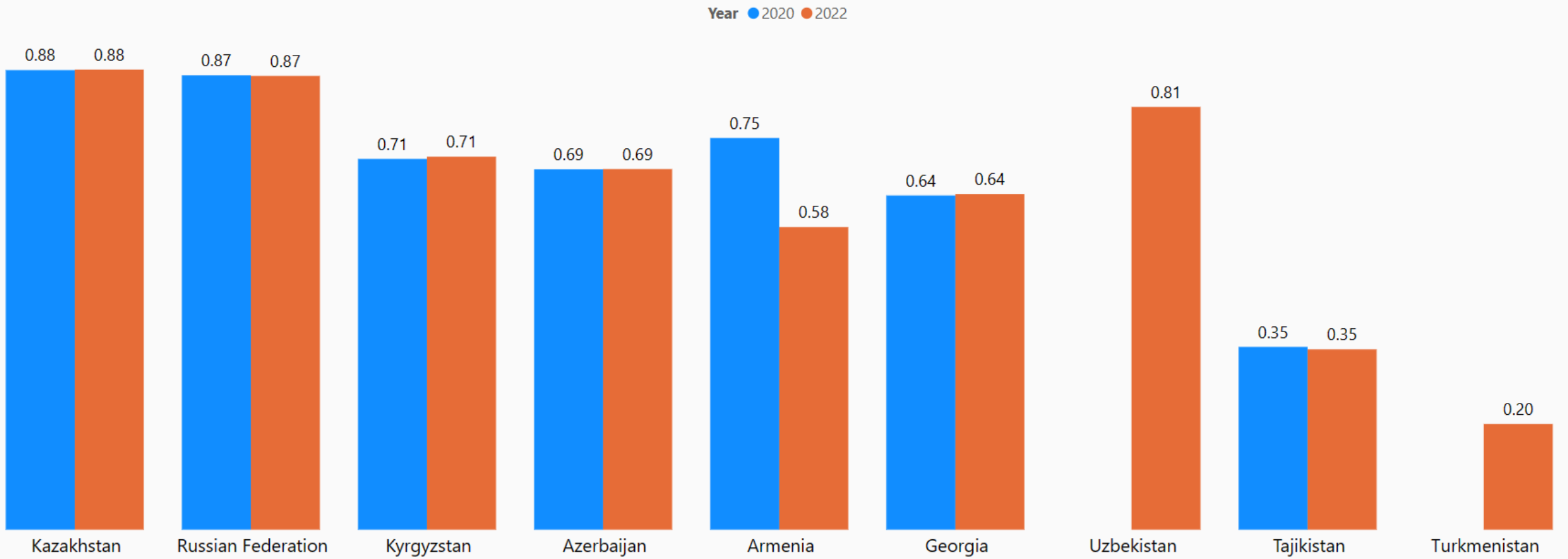
Reference

Country Group: NCA

Country: All

Pillar: ICTs' role in data management

Indicator: E-Participation (0 - 1 max)



Note: The source of data and units are in the tooltip on Page 1

E-resilience Profile of NCA Per Pillar

1. Overall, the **ICT infrastructure** aspect of e-resilience in the NCA region is acceptable and improving, demonstrating both governments and people's commitment to advancing digital transformation; furthermore, the data shows a clear and growing preference for mobile devices instead of traditional laptops and computers in all NCA countries:
    - economic crisis following the pandemic has reduced Internet access affordability.
2. Regional scores for **the ICT policy pillar** are similar between countries and moderately high, signaling an even development.
    - However, although NCA governments have launched several policies to improve their legal framework's adaptability to emerging technologies, indicators show that regulatory quality has decreased in at least four out of six countries between 2020 and 2022, which is also weakening the e-resilience profile of these countries.

E-resilience Profile of NCA Per Pillar (ctd)

3. Despite the economic crisis, most NCA economies have improved their performance regarding the development of **new systems and applications** and appear to be set up for further progress.
   - On a regional level, the New System and Apps pillar appears to be the weakest one, leaving most ICT ecosystems in a state of rigidity: boosting the value of its related indicators must be given absolute priority (especially by Central Asian countries).
4. Nearly all NCA countries should pay better attention to the digital **data management**:
   - low levels of e-participation, paired with the widening gender and socioeconomic gap, hinder the success of modern businesses and organizations.
5. **Hazard exposure**-related performances across the region are uneven.
   - Central Asian countries display adequate levels of protection, while Azerbaijan and Armenia suffer from extremely low levels of preparedness that severely damage their overall e-resilience score.

Key Take Aways for NCA economies

- support the affordability of mobile tariffs and transition to mobile broadband, focus on post-pandemic economic recovery to boost levels of purchasing power across-the-board.
- consider increasing the number of ISPs (Internet service providers) on their territory
- protect data centres through comprehensive safety policies, possibly referring to globally recognized standards (ref Uptime Institute)
- increase regulatory quality and improve transparency through e-governance and new anti-corruption mechanisms, empowering third parties to monitor behavior in cyberspace.
- enable fast-paced and productive digital industry, through Businness Continuity Plans (BCPs) by SMEs; create offsite backups, adoption of autonomous power supply technologies, usage of online applications for early warning, and cloud computing
- promote government R&D expenditure and invest in emerging technologies to guarantee advancements; dialogues and joint development initiatives at the sub-regional level will be useful.
- ensure that web services are up-to-date and secure and provide better financial services and education to rural populations include locating public Internet access in safe spaces, improving the affordability of devices and data plans, and organizing tailored digital skills programs in local languages.
- Ensure regional collaboration, with a strong focus on the co-deployment of Fibre Optic Cables alongside passive infrastructure (highways, railways, and electricity grids) as well as next-generation physical networks.
- Asia-Pacific Information Superhighway (APIS) provide partnership opportunities as the sole region-wide intergovernmental cooperation platform promoting inclusive digital transformation among Member States.
- establish natural disaster early warning platforms and simulate disaster relief scenarios for smoother defense and decision-making.

Eight Leverage Points of Digital Technologies and Digital Data for Climate Action and Trade Facilitation

1. Create innovation via digital connectivity including access to information and resources.

2. Increase productivity through increasing the scale of economy, for example in the energy sector and manufacturing.

3. Promote sustainable consumption, by decreasing waste of materials, and reducing carbon emissions.

4. Directly support environmental protection and conservation through remote sensing, GIS and digital twin technologies.

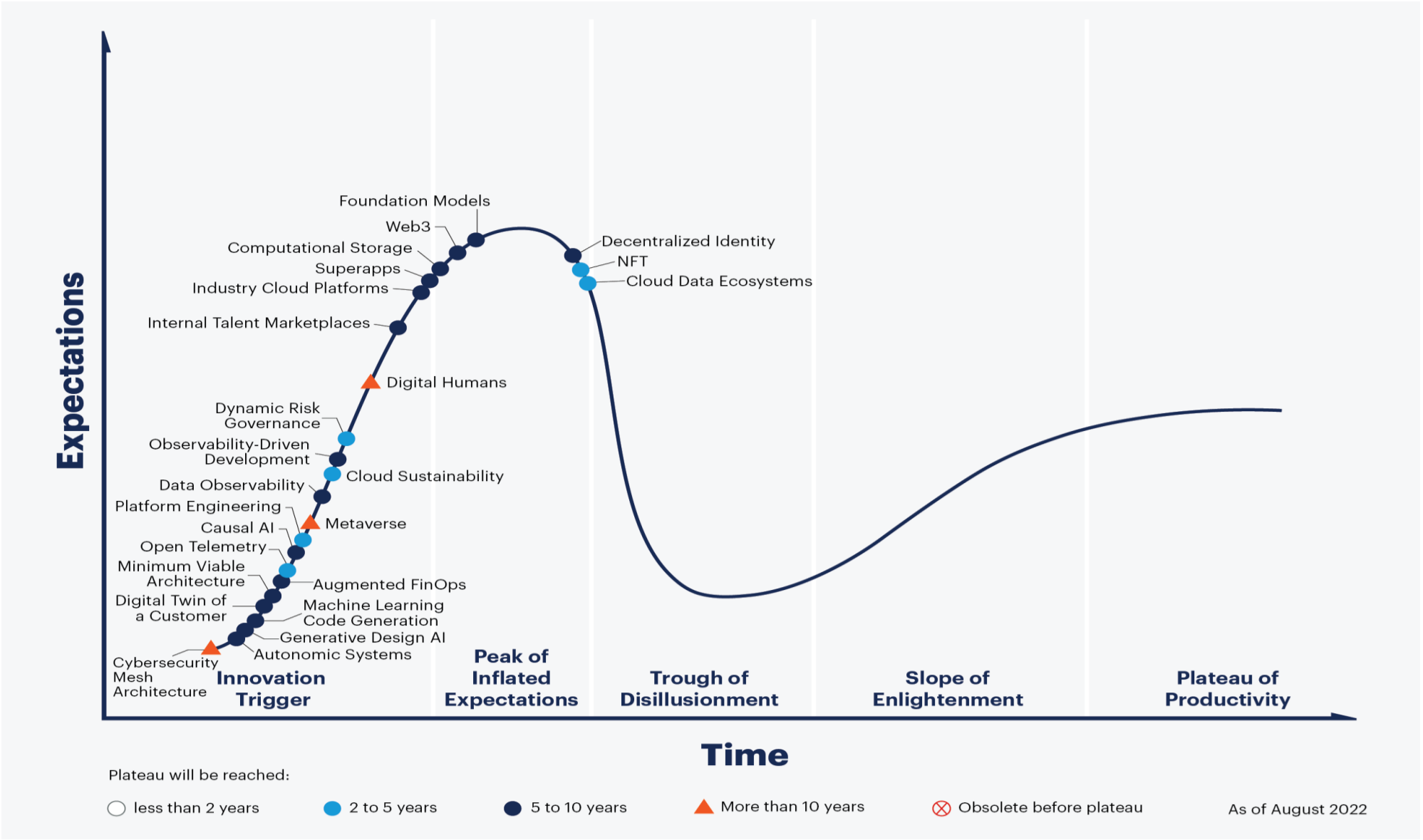
5. Enhance effectiveness through transparency and accountability.

6. Strengthen resilience (monitoring and predicting weather patterns and disasters).

7. Support the transition to a low carbon economy (such as electric vehicles and renewable energy systems).

8. Provide high tech integration through ICT platforms, AI and cloud-based technologies.

The 2022 Gartner Hype Cycle Informs on Limitations and Opportunities for Climate Action



Source: www.gartner.com

Policymaking for the Way Forward

I. ESCAP Regional Workshop on Digital Inclusion (6-7 September 2023, Bangkok)

II. SPECA WG on Innovation and Technology with ECE and ESCAP (18-19 October 2023, Tashkent)

III. ESCAP Asia Pacific High-level Forum for Global Digital Compact (24 October 2023, Seoul, Korea, TBD)

IV.ESCAP 7th Steering Committee of the Asia Pacific Information Superhighway (8-9 November 2023, Yerevan, TBD)

V. ESCAP Asia Pacific Digital Ministerial Conference on Digital Inclusion and Transformation (TBD, October 2024, Astana)

References

- Asia-Pacific ICT & DRR Gateway
- ICT and Disaster Risk Reduction | ESCAP (unescap.org)
- e-Resilience Monitoring Dashboard | ESCAP (unescap.org)
- Asia-Pacific digital transformation report 2022 : shaping our digital future | ESCAP (unescap.org)

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